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April 8, 1992

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APR - 8 1992

Ms. Donna Searcy  
Secretary  
Federal Communications Commission  
1919 M Street, N.W.  
Washington, D.C. 20554

Federal Communications Commission  
Office of the Secretary

Re: Pioneer's Preference Requests (Constel-  
lation, Ellipsat, Loral, Motorola, TRW);  
ET Docket No. 92-28; PP-29; PP-30;  
PP-31; PP-32; PP-33

Dear Ms. Searcy:

On behalf of Ellipsat Corporation, I am transmitting here-  
with an original and four copies of "Opposition of Ellipsat Cor-  
poration to Pioneer's Preference Request of Motorola Satellite  
Communications, Inc."

Should there be any questions concerning this matter, kindly  
communicate with the undersigned.

Sincerely,

*Jill Abeshouse Stern*  
Jill Abeshouse Stern  
Counsel for Ellipsat Corporation

JAS:csg  
Enclosures

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APR - 8 1992

BEFORE THE  
FEDERAL COMMUNICATIONS COMMISSION  
WASHINGTON, D.C. 20554

Federal Communications Commission  
Office of the Secretary

In the Matter of	)	
	)	
Amendment of Section 2.106 of the	)	
Commission's Rules to Allocate	)	ET Docket No. 92-28
Spectrum to the Mobile-Satellite	)	
Service above 1 GHz for	)	PP-29
Low-Earth Orbit Satellites --	)	PP-30
Requests for Pioneer's Preference by	)	PP-31
Constellation, Ellipsat, Loral,	)	PP-32
Motorola, and TRW.	)	PP-33

To: The Chief Engineer

OPPOSITION OF ELLIPSAT CORPORATION  
TO PIONEER'S PREFERENCE REQUEST OF  
MOTOROLA SATELLITE COMMUNICATIONS, INC.

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Counsel for Ellipsat Corporation

April 8, 1992

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## SUMMARY

Ellipsat herein opposes Motorola's request for pioneer's preference. Motorola has not demonstrated eligibility for a preference based on its Iridium system design. Iridium essentially repackages technologies developed by the Department of Defense in connection with the Milstar satellite system and by NASA in connection with the Tracking Data and Relay Satellite System (TDRSS). These satellite systems (Milstar for example) and other communications systems utilize the key technologies upon which Motorola relies, including inter-satellite links, 37 multiple beam arrays, TDMA, on-board signal processing and bi-directional operation.

Even more importantly, however, a preference award to Motorola would directly contravene important Commission and statutory requirements and must be denied on those grounds alone. The Commission has emphasized that a pioneer's preference is intended to encourage innovation, not exclude service. Yet, in this case, a preference award to Motorola would bestow a virtual global monopoly on that company. In effect, the preference would do far more than provide the intended guarantee of a license, and would, instead, ensure that no other LEO applicant could be licensed. The Commission never intended such an inequitable and anti-competitive result when it adopted the preference.

Grant of a preference to Motorola would be inconsistent with the Commission's statutory obligations under the Communications

Act and the Administrative Procedure Act. Those statutes require the Commission, among other things, to provide a reasoned analysis indicating that a prior policy or standard is being changed deliberately, not inadvertently. A preference award to Motorola would effectively overrule the existing spread spectrum approach that has been found by the Commission to offer significant public benefits (and which has been proposed by the four other LEO applicants). This outcome would also deny the other applicants their statutory rights, under the Ashbacker doctrine, to full comparative consideration of their proposals.

If the Commission chooses to award a preference in this proceeding, it should more appropriately be given to Ellipsat as the first applicant to file a proposal with the Commission proposing combined mobile voice/RDSS services in a way which facilitates sharing among multiple users in the band and which permits significant cost savings to users. The innovative use of elliptical orbits, among other things, qualifies Ellipsat for a preference.

BEFORE THE  
FEDERAL COMMUNICATIONS COMMISSION  
WASHINGTON, D.C. 20554

RECEIVED

APR - 8 1992

Federal Communications Commission  
Office of the Secretary

In the Matter of	)	
	)	
Amendment of Section 2.106 of the	)	
Commission's Rules to Allocate	)	ET Docket No. 92-280
Spectrum to the Mobile-Satellite	)	
Service above 1 GHz for	)	PP-29
Low-Earth Orbit Satellites --	)	PP-30
Requests for Pioneer's Preference by	)	PP-31
Constellation, Ellipsat, Loral,	)	PP-32
Motorola, and TRW.	)	PP-33

To: The Chief Engineer

OPPOSITION OF ELLIPSAT CORPORATION  
TO PIONEER'S PREFERENCE REQUEST OF  
MOTOROLA SATELLITE COMMUNICATIONS, INC.

Ellipsat Corporation ("Ellipsat"), by its attorneys, hereby opposes the request for pioneer's preference filed by Motorola Satellite Communications, Inc. ("Motorola").

I.  
INTRODUCTION

Motorola is not entitled to a pioneer's preference under the criteria previously articulated by the Commission. Key features of the Motorola system, including inter-satellite links, multiple beam arrays and on-board signal processing, have been used in systems previously developed by the Department of Defense, for example the Milstar System, and by NASA. In this regard, Iridium is essentially a repackaging of existing technology. Nor does

Iridium meet other indicia of innovation, recognized by the Commission, such as spectrum sharing or reduced costs to the public.

Even if the Motorola system were "innovative", which it is clearly not, grant of a preference to Motorola would contravene the basic purpose of the preference by effectively creating a global monopoly for that company in the RDSS/MSS bands. This result would be contrary to the Commission's stated desire to foster innovation, not exclude service to the public.<sup>1/</sup> It would also be contrary to the Commission's express statement that the pioneer's preference will not bestow a monopoly on any one applicant. Given the exclusionary nature of Motorola's system design, a preference would effectively deny the other LEO applications and preclude Commission consideration of their LEO system proposals.

Perhaps most importantly, grant of a preference to Motorola would abrogate the public interest standard that governs Commission licensing decisions, and effect changes in existing Commission policies without satisfying the applicable procedural safeguards.<sup>2/</sup> A preference award to Motorola is particularly inappropriate in light of the substantial unresolved policy questions relating to the Motorola system --- the very policy questions that rulemaking will resolve. A central issue is whether

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<sup>1/</sup> Low-Earth Orbit Satellite System (Pioneer's Preference), 70 R.R. 2d 467, 469 (1992)(hereinafter "Tentative Decision.")

<sup>2/</sup> See, e.g., 47 U.S.C. § 309. See also 5 U.S.C. §§ 553, 554.

Motorola has demonstrated any public interest reasons that override the Commission's prior determinations as to the benefits of spread spectrum in the RDSS bands. Questions have also been raised about the economic and technical feasibility of Iridium. Pending resolution of these critical issues, the Commission should not, and cannot, prejudice the outcome of its licensing and rulemaking decisions by awarding a preference to Motorola.

II.  
GRANT OF A PREFERENCE  
TO MOTOROLA WOULD CONTRAVENE  
IMPORTANT COMMISSION POLICIES

A. The Pioneer's Preference is  
Intended to Foster Innovation  
Not Exclude Service

In establishing the pioneer's preference, the Commission intended to reward qualified applicants "first proposing a new service and a reallocation of spectrum for that service" by awarding an authorization in the new service.<sup>3/</sup> The Commission sought to foster innovation, by ensuring that innovators will have an opportunity to participate in the new service or new technology that they develop.<sup>4/</sup>

The Commission made clear, however, that the pioneer's preference is intended to reward innovation not to exclude others

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<sup>3/</sup> Report and Order, GEN Docket No. 90-217, 6 FCC Rcd 3488 (1991)(emphasis added)(hereinafter "Pioneer's Preference Order.")

<sup>4/</sup> Id. (emphasis added)

from providing the service.<sup>5/</sup> In seeking to ensure that the "goals of promoting competition and providing new services to the public expeditiously" would also be met,<sup>6/</sup> the Commission emphasized that it did "not intend to award a pioneer preference that would bestow a nationwide monopoly."<sup>7/</sup>

Similarly, the Commission, in awarding a preference to Volunteers in Technical Assistance (VITA) for its LEO system, expressly found that a grant to VITA would not foreclose licensing of other LEO systems.<sup>8/</sup> Both Orbcomm and Starsys, competing applicants in the relevant bands, supported VITA's request for preference, pointing out that the VITA frequency plan could operate compatibly with either the Orbcomm or Starsys system.<sup>9/</sup> The pioneer's preference, therefore, did not prejudice the future outcome of the licensing and regulatory proceedings.

In contrast, as detailed below, grant of a preference to Motorola is opposed by the other applicants and would effectively deny all of the other applications. This result would be flatly inconsistent with the Commission's objectives in adopting a preference.

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<sup>5/</sup> Pioneer's Preference and Order, 6 FCC Rcd at 3490, ¶ 19.

<sup>6/</sup> Id. at 3492, ¶ 32.

<sup>7/</sup> Id. See also Tentative Decision, 70 R.R. 2d at 469, ¶ 13.

<sup>8/</sup> Tentative Decision, supra.

<sup>9/</sup> Id. at 468.

B. Motorola is Not Entitled  
to a Monopoly

Contrary to the Commission's stated goal of encouraging new technologies and services, grant of a preference to Motorola would effectively bestow a nationwide --- indeed global --- monopoly on Motorola. The voluminous comments and petitions filed in the large LEO proceedings document the technical reasons why the Motorola system would preclude multiple entry in the RDSS/MSS bands, by U.S. and foreign systems. As detailed therein, Motorola's bi-directional operation and TDMA techniques will essentially preclude coordination with other systems in the relevant bands.

The Commission did not intend for the pioneer's preference to preclude licensing of other systems. Rather, it intended only to exclude consideration of other applicants for a short period of time (i.e., six months). Certainly, a total exclusion of the other applicants would require, at a minimum, a preliminary determination by the Commission that the public interest warrants the major rule changes and/or waivers that would be required to accommodate the Motorola system. Ellipsat doubts that the Commission can make such a finding.

As Ellipsat and others have repeatedly emphasized, the Commission's RDSS rules, and the underlying public interest determinations, favor multiple, competitive entry. The Commission has explicitly acknowledged that spread spectrum in the RDSS bands

facilitates multiple entry. Motorola has provided no reason to override the Commission's policy determinations with respect to the benefits of multiple entry for consumers, which benefits include spectrum efficiency, lower costs, diverse choices and more rapid introduction of service.<sup>10/</sup> The pioneer's preference cannot, and should not, be used as a vehicle to overrule indirectly the Commission's policy determinations with respect to the benefits of spread spectrum in order to create a monopoly for Motorola.

C. The Commission May Not Abdicate  
Its Statutory Obligations to  
Consider the Public Interest in  
Licensing Decisions

The pioneer's preference was never intended to enable an "end-run" around the Commission's rulemaking and licensing processes, and, indeed, the Commission cannot abdicate its statutory obligation to consider the public interest in reaching licensing decisions.<sup>11/</sup>

The Commission has recognized that the LEO preference requests raise issues that are "analogous" to the issues raised

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<sup>10/</sup> Second Report and Order, 60 R.R. 2d 298, 304, 306 (1986).

<sup>11/</sup> 47 U.S.C. § 309 ("The Commission shall determine, in the case of each application filed with it ... whether the public interest, convenience, and necessity will be served by the granting of such application ...")

in the licensing and rulemaking proceedings.<sup>12/</sup> It would be a meaningless exercise for the Commission to award a preference to Motorola without first determining whether Motorola's waiver requests --- to permit bi-directionality and TDMA operation --- should even be considered. As Ellipsat and others have pointed out, those waivers would effectively require the Commission to abandon existing rules, and the underlying policy determinations made in 1986, with respect to the benefits of spread spectrum.<sup>13/</sup>

Moreover, the award of a preference to Motorola would deny Ashbacker rights to the other applicants.<sup>14/</sup> Because Motorola's proposal is mutually exclusive with the proposals of the other applicants, the tentative selection of Motorola as the preferred applicant would effectively deny all of the other applications, and preempt the Commission's licensing and regulatory decisions.

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<sup>12/</sup> Order Denying An Extension of Time For Comments and Replies, ET Docket No. 92-28, DA 92-326, released March 27, 1992 at 3 (¶ 4).

<sup>13/</sup> See, e.g., Petition to Deny or Dismiss and Opposition to Waiver Request, filed by Ellipsat Corporation, FCC File Nos. 9-DSS-P-91 (87), CSS-91-010, June 3, 1991.

<sup>14/</sup> Ashbacker Radio Corp. v. FCC, 326 U.S. 327 (1945). Although the Commission considered Ashbacker in establishing a preference, Pioneer's Preference Order at 3492 (¶ 33), it interpreted Ashbacker to permit establishment of threshold standards that applicants must satisfy before they are eligible for comparative consideration. This is in contrast to the present situation where, as discussed above, a preference to Motorola would preclude comparative consideration entirely, and cannot be considered merely an eligibility criterion.

The Commission would thus abdicate its statutory licensing responsibilities in contravention of the Communications Act.

This denial of Ashbacker rights has important implications for future service. Without comparative consideration of the applications, or a public interest determination as to the merits of a particular system design, the public may ultimately be denied the benefits of competitive service providers and offerings. It is also highly possible that the Motorola system, if it were to be licensed without being subjected to critical scrutiny, would never actually be built or be built in a radically different form. Ellipsat and others have expressed skepticism about the high cost of the Motorola system and its complexity, which create a high risk of failure.<sup>15/</sup>

D. Grant of a Preference to  
Motorola Would Violate the APA.

Under Commission practice, rooted in the Administrative Procedure Act, it is axiomatic that the Commission must follow certain procedures in adopting new rules.<sup>16/</sup> In this case, a preference award to Motorola would, in effect, allow the preference

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<sup>15/</sup> Estimates of the cost of the Motorola system have ranged from \$3 billion to \$6 billion. The Motorola business plan will require 100 million subscribers worldwide to pay for its expensive system. See "Crowd Forms to Offer LEO Calls, Paging," Washington Technology, March 12, 1992 at 1. These costs will necessarily increase the cost of service to the user.

<sup>16/</sup> See, e.g., 5 U.S.C. §§ 553, 554.

to supersede the rulemaking and licensing process, and the Commission's related administrative obligations.

The Commission's rulemaking (and public interest) decisions supersede preference decisions. In this regard, the Pioneer's Preference Order acknowledged that a new service or rule will not be granted by the Commission, unless it finds "that the overall public interest is served and not just the special interest of an innovator."<sup>17/</sup> The preference will be awarded only where the rules adopted for the new or existing service are a "reasonable outgrowth of the proposal and lend themselves to the grant of a preference and a license to the pioneer."<sup>18/</sup> The Commission has also conceded that, where the discrepancy between a service proposal and the final rules for the service are "significant," it will not award a preference for that innovation.<sup>19/</sup>

The preference cannot, through inadvertence, be allowed to establish new policies. If the Commission intends to reverse its course with respect to the RDSS bands, it "must supply a reasoned

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<sup>17/</sup> Pioneer's Preference Order, *supra* at 3490, ¶ 21.

<sup>18/</sup> Pioneer's Preference Order, 6 FCC Rcd at 3494, ¶ 47. See also Memorandum Opinion and Order, GEN Docket No. 90-217, FCC 92-57, released February 26, 1992, at ¶ 5 indicating that an initial determination of preference will not be made until a NPRM is issued "proposing rules for a new service or modifications to rules in an existing service." This makes clear that the preference should be determined in conjunction with regulatory (not spectrum allocation) requirements.

<sup>19/</sup> Pioneer's Preference Order, 6 FCC Rcd at 3495. See also 47 C.F.R. § 1.402(b) "The preference will be granted only where rules, as adopted, are a reasonable outgrowth of the proposal and lend themselves to the grant of a preference."

analysis indicating that prior policies and standards are being deliberately changed, not casually ignored."<sup>20/</sup> Reasoned decision-making is a fundamental agency requirement which "promotes results in the public interest by requiring the agency to focus on the values served by its decision."<sup>21/</sup> Grant of the preference to Motorola would violate these fundamental principles of agency action.

III.  
MOTOROLA HAS NOT MET  
THE CRITERIA FOR A PREFERENCE

In the Pioneer's Preference Order, the Commission elaborated the criteria that would be used to determine eligibility for a preference. The Commission there defined "innovation" to include:

[A]n added functionality, a different use of the spectrum than previously available, or a change in the operating or technical characteristics of a service, any of which involve a substantial change from that which existed prior to the time the preference is requested. Further, technologies that yield efficiencies in spectrum, speed or quality of information transfer, or spectrum sharing, or which significantly reduce costs

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<sup>20/</sup> Greater Boston Television Corp. v. FCC, 444 F. 2d 841, 852 (D.C. Cir.) cert. denied., 403 U.S. 923 (1971).

<sup>21/</sup> Id. See also Columbia Broadcasting System, Inc. v. FCC, 454 F. 2d 1018, 1027 D.C. Cir. (1971) ("If the public's faith in its administrative agencies is to be maintained, it is imperative that agencies act in a wholly rational, logical fashion, completely free from even the appearance of bias, prejudice and improper influence.")

to the public, will be given careful consideration.<sup>22/</sup>

As detailed below, Iridium does not meet these criteria.

A. Iridium Repackages Elements of Other Satellite and Communications Systems

In its preference request, filed July 30, 1991, Motorola relies exclusively upon its use of inter-satellite links, its bi-directional capabilities and its spot beam technology as a basis for the preference. None of these features was developed by Motorola or can be considered innovative for purposes of a preference. As detailed below, each of these system features has been used in other satellite systems and has been merely repackaged by Motorola.

1. Inter-satellite Links.

Motorola did not pioneer crosslinks between satellites. The Tracking Data and Relay Satellite System (TDRSS) developed by NASA, already in operation, uses crosslinks to interconnect satellites in order to pass data over long distances to regions not visible to the originating satellite. TDRSS, in fact, is designed to establish links with low earth orbiting satellites.

In addition, the Milstar satellite system, a communications satellite system developed by the Department of Defense, will

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<sup>22/</sup> Id. at 3494. See also Low-Earth Orbit Satellite System (Pioneer's Preference), 70 R.R. 2d 467, 469 (1992)(hereinafter "Tentative Decision.")

also use crosslinks to interconnect all satellites so that calls can be routed from one destination terminal (including portable, mobile and transportable terminals) to another located anywhere else on earth, without requiring a relay on the ground to transit from one satellite to the next. Milstar is nearing launch of its first satellite.

## 2. Bi-Directionality.

While Motorola cites this system feature as innovative, it is readily apparent that uplinks and downlinks in the same band are far from novel. Most importantly, however, this bi-directional capability is the subject of domestic and international controversy. As the Commission is aware, as a result of WARC-92, space-to-earth (downlinks) in the L-Band are permitted only on a secondary, non-interfering basis. Motorola has yet to demonstrate that it could utilize the band in this fashion without causing harmful interference to other systems operating under primary allocation.

## 3. Spot Beam Technology.

Motorola pioneers neither multiple beams, multiple beam patterns or frequency reuse among satellite systems. Multiple beam arrays have already been developed for use in other satellite systems. The Defense Department's Milstar satellite system uses several scanning 37 beam array antennas in order to provide

coverage of broad areas while placing relatively high gain on any one user. It should be noted that Ellipsat, and the other applicants, have proposed to use multiple beams in order to permit frequency reuse.

#### 4. Frequency Reuse Pattern.

Nor did Motorola pioneer the frequency reuse pattern it proposes for Iridium. That frequency reuse pattern, consisting of repeating the same frequency in every seventh beam over a circular honeycomb pattern of cells, is commonly used by terrestrial cellular systems today. Mapping the same cellular pattern onto an identical pattern generated by a circular array antenna is not pioneering technology, but rather replicating an established and common cellular and frequency reuse scheme.

#### 5. On-Board Signal Processing.

Other satellite systems employ some or all of the processing features that the Iridium system intends to use, such as TDMA, on-board demultiplexing, switching and remultiplexing systems for handling and routing calls from origin to destination, multiple beam arrays, and demand assignment of channel capacity. Examples include the Intelsat BG-42-65 system, the Satellite Business Systems network, the French TELCOM I system, and the Department of Defense Milstar system.

In short, Motorola did not pioneer or innovate the technologies or services described in its application. As shown above, inter-satellite links, multiple beam arrays and other system features have been previously developed by the Department of Defense and NASA, among others. No preference is warranted under the criteria established by the Commission for what is essentially a repackaging of existing technology.

B. Motorola Does Not Achieve  
Spectrum Sharing or Cost Reductions

In establishing the pioneer's preference, the Commission proposed to reward proposals that promised to "enable the sharing, or co-use, of allocated spectrum."<sup>23/</sup> The Commission also defined innovation to include technologies that "yield efficiencies in spectrum use ... or spectrum sharing, or which significantly reduce costs to the public."<sup>24/</sup>

As Ellipsat has previously pointed out, true efficiency is achieved where multiple systems can co-exist, not where one system, like Motorola's, has exclusive use of the band. Motorola has made no effort to design its system to achieve sharing. Instead, it has argued that competition is not the most important Commission objective, and has offered blatantly self-serving band

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<sup>23/</sup> Pioneer's Preference Order, 6 FCC Rcd at 3492, ¶ 37.

<sup>24/</sup> Id. at 3494, ¶ 48.

segmentation proposals in lieu of the spread spectrum approach previously adopted by the Commission for the RDSS bands.

Nor can Motorola contend that it offers reduced costs. Iridium is an excessively complex, expensive, and risky undertaking. For example, Motorola proposes 77 satellites, almost double the number of satellites in the next largest proposed constellation. The Motorola business plan will require 100 million subscribers worldwide to pay for its expensive system, which is expected to cost between \$3-6 billion. This complexity and expense will ultimately escalate the price of service to the user, and increases the risk that the system will never be implemented or will be implemented in a radically different form.

IV.  
IF THE COMMISSION  
CHOOSES TO AWARD A PREFERENCE,  
ELLIPSAT IS THE APPROPRIATE PARTY

If the Commission chooses to award a preference in this proceeding, it should be given to Ellipsat as the first applicant to file a proposal with the Commission proposing combined mobile voice/RDSS services in a way which facilitates sharing among multiple users in the band and which permits significant cost savings to users.

In Ellipsat's November 5, 1990 application for the ELLIPSO™ system --- the first application for a low earth orbit satellite system using the RDSS bands --- Ellipsat claimed a pioneer's preference for the innovative features of its system design,

including the first proposed commercial use of elliptical orbits.<sup>25/</sup> In its June 3, 1991 application, proposing the second phase of the ELLIPSO™ system (ELLIPSO™ II), Ellipsat renewed its claim for a preference.<sup>26/</sup> On July 29, 1991, Ellipsat filed a request for preference in which it detailed the innovative and pioneering nature of its proposal, and a related petition for rulemaking. Concurrently therewith, Ellipsat filed an application on July 29, 1991 for an experimental license to test the ELLIPSO™ system.

Ellipsat has fully met the applicable criteria for a pioneer's preference. The innovative features of the ELLIPSO™ system warrant award of a pioneer's preference to Ellipsat with respect to both its ELLIPSO™ I and ELLIPSO™ II systems.<sup>27/</sup> Ellipsat was the first to file an application proposing use of

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<sup>25/</sup> See Application of Ellipsat Corporation, filed November 5, 1990 and Technical Clarification and Erratum, filed January 30, 1991 (FCC File No. 11-DSS-P-91(6))(hereinafter "ELLIPSO™ I Application").

<sup>26/</sup> See Application of Ellipsat Corporation, filed June 3, 1991 (FCC File No. 18-DSS-P-91(18)) (hereinafter "ELLIPSO™ II Application").

<sup>27/</sup> At a minimum, Ellipsat is entitled to a preference for the ELLIPSO™ I system. The ELLIPSO™ I application is part of a separate processing group, filed in advance of the other LEO applications in response to the filing window created by the Geostar modification applications that were placed on public notice in September 1990. See Ellipsat's Petition for Partial Reconsideration filed May 31, 1991; letters to Ms. Donna Searcy, dated May 2, 1991 and May 21, 1991, respectively. The ELLIPSO™ I system was the first LEO application above 1 GHz to be filed and the only application filed within the window created by the Geostar applications.

the RDSS bands for combined RDSS and mobile voice services. The ELLIPSO™ system has also pioneered the commercial use of elliptical orbits, which achieve maximum coverage of the United States with a minimum number of satellites. In addition, the ELLIPSO™ system uses state-of-the-art technology in an innovative fashion. Through the use of spread spectrum code division multiple access (CDMA) modulation techniques, the ELLIPSO™ system will ensure multiple entry and maximize spectrum utilization. Particularly innovative is the way in which the system is designed to expand gracefully as the market for mobile services develops, and to tailor system capacity to demand. The ELLIPSO™ system also features an innovative design permitting transparent interconnection between satellite and terrestrial systems, and integration with the public telephone network. ELLIPSO™ provides these innovative services at a reduced cost to the public when compared to geostationary mobile satellite systems and to other LEO systems.

The elliptical low-earth orbit is designed to maximize coverage over the U.S. and to reduce cost of service to the American consumer. No one has previously proposed an elliptical orbit in the configuration designed by Ellipsat. Ellipsat has undertaken the complex computer studies and simulation required to confirm the technical feasibility of the elliptical orbit. Technology is being developed to position the satellites into the proposed elliptical orbit. As soon as Ellipsat's experimental

authorizations are granted, it will undertake the next phase of testing and demonstration, including in-orbit tests.

Consistent with the pioneer's preference criteria, Ellipsat was the first to recognize the possibilities of small satellite technology and the potential use of the RDSS band for wide-area cellular services at very attractive end-user prices. Its business approach has been emulated by all of the large LEO applicants who filed subsequent to Ellipsat. The Commission specifically acknowledged that technologies "which significantly reduce costs to the public ... will be given careful consideration."<sup>28/</sup> Ellipsat has documented the ways in which the ELLIPSO™ system will provide new RDSS/MSS services to the public at a lower cost than geostationary or other LEO systems. For example, Ellipsat has estimated the cost per minute at \$0.60, compared to Motorola estimates of \$3.00 per minute for its system.

Ellipsat's cost estimates and the technical feasibility of the ELLIPSO™ system have been corroborated by the intensive analysis of four major aerospace companies who are the remaining contestants to undertake the construction of the ELLIPSO™ system.

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<sup>28/</sup> Pioneer's Preference Order, 6 FCC Rcd at 3494.

V.  
CONCLUSION

For the foregoing reasons, the Commission should deny Motorola's request for preference and take other actions consistent with the recommendations herein.

Respectfully submitted,

ELLIPSAT CORPORATION

By:

  
Jill Abeshouse Stern

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Its Attorneys

April 8, 1992

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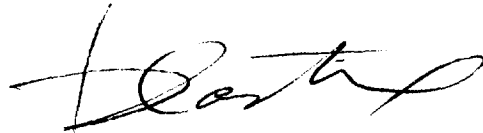
AFFIDAVIT

I, David Castiel, being duly sworn, hereby declare and state as follows:

1. I am the Chairman and Chief Executive Officer of Ellipsat Corporation.

2. I have reviewed the foregoing "Opposition of Ellipsat Corporation to Pioneer's Preference Request of Motorola Satellite Communications, Inc."


3. All of the facts contained in the foregoing Response, except those as to which official notice may be taken, are true and correct to the best of my knowledge, information and belief.



\_\_\_\_\_  
David Castiel

District of Columbia      )  
  )      ss:

I, Wanda M. Akers, a Notary Public in and for the District of Columbia, do hereby state that on this 8th day of April, 1992, David Castiel personally appeared before me and attested that the above information is true and correct to the best of his knowledge and belief.

  
\_\_\_\_\_  
Notary Public

My Commission Expires: September 30, 1996